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A Correlation Of The Client'S Sense Of Power In Health Care And His Compliance To The Therapeutic Regime

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Abstract

The purpose of this research study was to correlate a client's sense of powerlessness with his compliance to a health care regime. From a population of patients of a family physician in a rural county in Northeast Mississippi, a sample of 30 individuals were given the Health Locus of Control tool and the Compliance tool. Of these 30, 23 met the qualifications and were included in the study.

The hypothesis for this study was that there would be no significant correlation between clients' sense of powerlessness and their compliance to the health care regime. The statistical analysis of the data failed to reject the hypothesis.

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Chapter I

The Research Problem

Health care providers, including nurses, have generally assumed that patients were compliant with recommended health behaviors and prescribed treatment regimes. This assumption was challenged in the early 70s when researchers demonstrated alarming rates of noncompliance among patients. As a result, a dramatic increase in the amount of research focused on patient compliance (Connelly, 1984).

Rates of compliance and noncompliance in both preventive and curative situations have been found to be disturbingly low. On the average, one third to one half of all patients studied are classified as noncompliant (Marston, 1970; Sackett & Snow, 1979, as cited by Dracup & Meleis, 1982). Noncompliance contributes to the overall cost of health care by increasing the incidence of many otherwise preventable illnesses (Connelly, 1984). The impact on noncompliance with recommended treatment regimens on health status is staggering (Sackett, 1976). Failure of patients to take medications and follow other instructions prescribed as a part of treatment prolongs episodes of illness, increases its severity, and contributes to complications of illness (Connelly, 1984).

Treatment of chronic illness, a major health problem in America today, exemplifies the health and economic effects of noncompliance (Connelly, 1984). Successful treatment in chronic illness depends on the extent to which patients engage in successful self-care. Noncompliance in chronic illness has been associated with precipitating hospitalization and necessitating more complex and expensive treatments to deal with complications and exacerbations of symptoms (Levy, Mermelstein, & Hemo, 1982).

It is clear that patient compliance or noncompliance is an increasingly important issue in cost containment in health care. Patient compliance with recommended behaviors could reduce the need and demand for costly, highly technical health services, shorten or eliminate hospital stays, and lower overall health care costs (Connelly, 1984).

Dracup and Meleis (1982) addressed the concept of role theory as a suitable framework for studying the variables related to compliance. The definition of compliance was given as "the extent to which an individual chooses behaviors that coincide with a clinical prescription, a consensual regimen . . . that may require new behaviors on the part of the patient." (p. 31). Noncompliance describes "behaviors that vary from the consensual regimen" (p. 31). Several propositions of compliance enactment emerged. Proposition number 2 of Dracup and Meleis (1982) states "compliance is maximized when there is evidence that the

sick or at risk roles have been incorporated into the self-concept of the client" (pp. 35-36).

The sense of change and growth in role theory was developed by Thornton and Nardi (1980) in their model as they described how role variations and performance by different people occurred. They list four stages of role acquisition: anticipatory, formal, informal, and personal. They suggest that the acquisition of a role involves passage through all four stages. The individual achieves role mastery after anticipating the role; learning anticipatory, formal and informal expectations of the role; formulating expectations; and reacting and reconciling these expectations. If, however, the individual is unable to satisfy the requirements for role acquisition; a sense of powerlessness or role insufficiency may result (Lambert & Lambert, 1981).

Lambert and Lambert (1981) identified the concept of powerlessness as a result of poor acquisition of the illness role. This concept of powerlessness is defined as the feeling of failure to acquire a role or the expectancy that his own behavior cannot change the outcome.

Based on clinical observations, six propositions were formulated and applied to role theory (Lambert & Lambert, 1981). They concluded that a physically ill individual's inability to progress through stages of role acquisition (of the illness) can lead to a sense of powerlessness or to a feeling of loss of control over the situation, illness.

Proposition number 6 states, "an individual who values a sense of power will tend to comply less with health care therapies when experiencing a sense of powerlessness than will an individual who does not experience a sense of powerlessness" (p. 13).

Crisis, stress, chronic illness, and depression are situations in which it is not uncommon for persons to seek an ally to whom they can relinquish control (Ebersole & Hess, 1985). The Family Nurse Clinician (FNC) may be the one to whom this control is given or who is perceived as having control. Symbols of the FNC's control or power are uniforms, addressing patients in familiar terms, records, special equipment, standing above rather than sitting by a patient, and opening and closing doors without permission. Patients as well have symbols of control such as refusing meals or treatments, attention demanding behaviors, hoarding of money or supplies, and ritualistic behaviors (Ebersole & Hess, 1985). Awareness of the patient's need to retain or regain power and ways to diminish the overwhelming influence of the FNC's power are areas that must be considered (Ebersole & Hess, 1985).

The concept of powerlessness as a factor affecting compliance emerged as the researcher was conducting a review of the literature on role theory. This relationship is directly related to the work of Lambert and Lambert (1981)

and Dracup and Meleis (1982). The review did not indicate that proposition 6 of Lambert and Lambert or proposition 2 of Dracup and Meleis have been tested. Implications for nursing can be significant as traditional care has been based with the health care provider as being powerful, the one in control. If it is found that compliance decreases as the client's feeling of powerlessness or role insufficiency increases, then traditional health care practices may have to be altered considerably to maximize the client's concept of power or control. Thus, with increased compliance, the onset of complications will be delayed or prevented, costs of health care will be decreased, and the quality of health and life will be enhanced.

Therefore, the purpose of this research study was to see if the client's sense of power in determining health care affects his compliance. The question this study sought to answer is "Does the client's sense of power affect his compliance to the therapeutic regime?"

Chapter II

Theoretical Basis of Study

The concept of powerlessness or role insufficiency affects patients' compliance to therapeutic regimes. Basic to this concept is a belief that the patient determines his behavior and that nursing actions impact on this behavior. Therefore, a theoretical base is needed that addresses patient participation in health activities as well as nursing action. Orem's theory of self-care satisfies these requirements.

Consisting of a body of relational statements about phenomena, Orem's theory of self-care addresses man, environment, health, and nursing (Chinn & Jacobs, 1983). The individual is an integrated whole with varying degrees of self-care ability. Self-care is preceded by reflection to assess needs, and decisions as to how to meet those needs (Chinn & Jacobs, 1983).

This definition of an individual makes man responsible for his own care. The responsibility applies directly to the study as man's actions determine the degree of his compliance in his therapeutic regime. This study tests Orem's concept of self-care as it attempts to determine if a

patient's sense of power increases his compliance to the therapeutic regime.

Orem defines the environment as factors outside man that affect his self-care system. Culture is seen as the context in which self-care behavior is learned. The situations which make it acceptable to seek services for self-care are determined by society (Chinn & Jacobs, 1983).

Lambert and Lambert's (1981) concept of powerlessness occurs as a result of the medical milieu. The use of terminology unfamiliar to the layman, uniforms to distinguish the staff from the patients, and the elimination of the patient's identity in the institutional setting are examples of changes in the environment causing a sense of powerlessness.

Orem defines health as a state of integrity of the individual or wholeness. Universal self-care is the basis for optimal functioning in six areas: (a) air, water, food, (b) excrements, (c) activity and rest, (d) solitude and social interaction, (e) hazards of life and well-being, and (f) being normal. Health deviation self-care is the response to illness, injury, or disease (Orem, 1980).

As defined by Orem (1980), nursing is a human service, an interpersonal process, and a technology for specialized action. The goal of nursing is to promote optimal wellness and nursing activities are directed toward enhancing self-care ability (Chinn & Jacobs, 1983). When an individual

cannot meet his own self-care needs he will have self-care deviation and will be in need of nursing care (Foster & Janssens, 1980). Nursing care is given to provide for and to manage the person's self-care action in an attempt to promote life and health and assist the individual to recover from disease and injury or to cope with their effects (Orem, 1980).

Three types of nursing activities are identified by Orem. Designed to meet the individual's self-care requirements according to the extent to which self-care is disrupted, they are the wholly compensatory system, the partially compensatory system, and the supportive-educative system (Thibodeau, 1983). The goal of nursing is reached by utilizing the nursing process and by modifying the process as the patient's situations change (Orem, 1980).

This researcher believes that Orem's supportive-educative system of nursing is directly applicable to this research study. The approach taken by nurses in teaching, supporting, and guiding patients varies from situation to situation. Implicit in the foundation of self-care theory is the understanding that change will occur. The supportive-educative system of nursing is utilized when the individual is able to perform or learn health measures but cannot do so without assistance. The individual needs support, guidance, and teaching (Thibodeau, 1983). Through

these techniques the nurse may alter environment to increase the patient's sense of power.

The concept of compliance will be assessed as a result of the patient's self-care activities--what actions (if any) does he take in the medical milieu with (or without) nursing interaction to return to a state of health. The researcher views the client as having self-care abilities. When his state of health is disrupted by injury, illness, or disease and he is unable to meet his health care needs, a patient experiences self-care deficits. In the medical milieu (environment) the patient experiences some degree of power or powerlessness that affects his participation in the therapeutic regime. Nursing, in the supportive-educative role, attempts to alter the medical environment of the client to lessen his sense of powerlessness and thereby increase his compliance. This increase in compliance should contribute to increased self-care and a return to health.

If Orem's theory of self-care is supported by this study, nursing can alter its care to affect client sense of powerlessness so as to increase compliance. With increased compliance, the onset of complications may be delayed or prevented, costs of health care decreased, and the quality of health and life will be enhanced.

Chapter III

Hypothesis

Theoretical Null Hypothesis

When clients are surveyed about compliance to therapeutic regimes and the sense of power they believe they have in health care and the results are correlated, there will be no significant correlation.

Theoretical Definitions

1. Clients--men and women 18 years of age or older, oriented as to person, place, and time, with a past or present health problem.

2. Surveyed--administered the Compliance Scale and the Health Locus of Control Scale.

3. Compliance to therapeutic regimes--behavior habits in compliance to therapeutic regimes as determined by the score on the Compliance Scale.

4. Sense of power they believe they have in health care--as determined by the score on the Health Locus of Control Scale.

5. Correlated--using the Pearson's Product Moment Correlation.

6. No significant correlation--at the .05 level of significance.

Operational Hypothesis

When men and women 18 years of age and older who are oriented as to person, place, and time and who have a past or present health problem are given the Compliance Scale and the Health Locus of Control Scale and the scores on the two scales are correlated using the Pearson's Product Moment Correlation at the .05 level of significance, there will be no significant correlation.

Chapter IV

Review of the Literature

This review of the literature focuses on compliance to therapeutic regimes and a client's sense of power. One limitation is that the researcher found only three studies that mentioned the concept of power as it relates to compliance and then it was only addressed indirectly. Issues of compliance have been studied and other applications have been made to the concept of powerlessness, but little has been done to relate the two issues. Therefore the review of the literature includes theoretical information as well as specific studies on both compliance and powerlessness. Role theory as it applies to the concept of powerlessness and compliance is addressed.

Compliance

Dracup and Meleis (1982) reviewed several theoretical bases as they applied to compliance. From their studies seven propositions of compliance enactment emerged:

> 1. To the extent a client demonstrates knowledge and competency in enacting a proposed role, a higher level of health regimen compliance is expected. The relationship is mediated through the level of complexity and duration of the medical regimen.

2. Compliance is maximized when there is evidence that the sick or at-risk roles have been incorporated into the self-concept of the client.

3. Compliance is enhanced when relevant other roles are congruent and/or complementary with client roles.

4. Compliance is enhanced if the compliance role is reinforced by significant others and other reference groups.

5. The level and extent of a client's compliance with a health care regimen depends on the degree to which behaviors of compliance are judged valuable by the client and are validated by significant others.

6. Nursing interventions directed toward increasing compliance depend on a careful assessment of omissions or commissions in each of the other four proposed components of role enactment.

7. All four components of role enactment have to be present for compliance to occur. (Dracup & Meleis, 1981, pp. 35-36)

Use of terminology of role theory was identified by Dracup and Meleis (1982) as appearing frequently in compliance literature, but no systematic application of role theory as a conceptual framework for past studies of compliance was identified.

Another researcher looked at compliance in terms of the Health Belief Model. Loustau (1979) operationalized the Health Belief Model to develop a tool to assess and research patient compliance. Included in the tool are questions in the area of perceived susceptibility, perceived benefits of treatment, and perceived costs of treatment. Intervening variables such as patient knowledge and understanding of the

regimen, complexity of the regimen, interpersonal relationships with patient and health care provider, and the effect of significant others were identified. The use of a tool to predict patient's compliance can assist health care providers to identify patients having difficulty with compliance and to assist these patients in achieving compliance.

Richardson (1982) developed a tool for assessing diabetic client compliance by asking questions in a way to preserve and enhance the client's self-esteem and to encourage him to manage his diabetes. The profile of the individual client and his health care needs developed from this tool can be used as a reference point for further instruction and evaluation. Neither Richardson nor Loustau (1979) have validated their tools as far as can be determined. Nevertheless, implications for their value in assessing compliance are possible and should be investigated.

Connelly (1984) addressed economic and ethical issues of compliance by synthesizing an approach in which compliance is viewed as a form of self-care with the nurse as facilitator of that case. Three phases to this approach include establishing the plan and specifying the behaviors recommended for self-care; developing patient competency to effectively perform self-care behaviors, and supporting and reinforcing self-care by the patient (Connelly, 1984).

Connelly (1978) also reviewed research on compliance and established implications for psychiatric and mental health nursing. The significance of the practitioner-patient relationship in promoting compliance with treatment and the need for continuity of care were conclusions she identified. The need for research specific to mental-health patients and treatment compliance was also a conclusion of the study.

In a retrospective study using an expanded version of the health belief model, Hershey, Morton, Davis, and Reichgott (1980) analyzed self-reported medication taking compliance behavior of 132 high blood pressure patients. Selected through random sampling procedures from regular hypertension program sessions at a large urban hospital, patients were interviewed and administered a questionnaire. Bivariate analysis showed that control over health matters, dependence on providers, perceived barriers, duration of treatment, and others' nonconfirming experiences were significantly related to compliance ($p < .05$). Three of these five variables--control over health matters, perceived barriers, and duration of treatment--contributed independently to patient compliance as analyzed by log-linear multivariate analysis. Self-reported medication taking was significantly related to blood pressure control ($p < .02$).

Greene, Weinberger, Jerin, and Mamlin (1982) explored patient adherence to medication regimens as a function of (a) patient beliefs, perceptions and knowledge of the illness, (b) extent of social support for health actions, (c) complexity of and specific knowledge of the regimen, and (d) satisfaction with clinical encounters and the health care facility. Review of patient records and interviews with 190 patients receiving care at a municipal teaching hospital provided data. Path analysis supported the stated hypothesis. The factors with the greatest predictive power in regard to compliance were: (a) patient's ability to state the functions of their drugs ($r = 0.63$, $p < 0.001$), (b) patient's ability to state the names of and accurately describe their medications ($r = 0.83$, $p < 0.001$), and (c) the complexity of the medication regimen as measured by the number of drugs prescribed for the patient ($r = -0.35$, $p < 0.001$). An unexpected finding was that the data indicated that patients seeing themselves as being more susceptible to illness ($r = 0.13$, $p < 0.045$) or perceiving their disease as being more severe ($r = 0.20$, $p < 0.003$) were less likely to follow the recommended advice.

A follow-up study to assess the impact of patient education on compliance to psychotropic medication after discharge from the hospital was done by Youself (1983). Thirty-six subjects with affective disorders were randomly

assigned to a control or a directive patient-education group. The subjects were followed after discharge for a 6-month period. X^2 test was used with the actual value of X^2 found to be 4.050, while its critical value with one degree of freedom at 5% level of significance was found to be 3.841. The results confirmed the hypothesis that there was a significant difference between the two groups. Patient education did have an effect on patient compliance to medication.

In a study with conflicting results regarding education, Swain and Steckel (1980) explored means of improving adherence and lowering blood pressure using a 3 x 4 repeated measures analysis of variance design. The first factor, treatment modality, included three different intervention strategies: routine clinic care, patient education, and contingency contracting. The second factor was comprised of four sequential clinic visits. It was hypothesized that patients who received information about hypertension and its treatment would show greater adherence to their treatment regimes than those who received only routine patient care. From a population of all persons over 18 years of age receiving medical care for hypertension in one of two ambulatory care clinics, 115 patients were randomly selected and randomly assigned among the three different treatment modalities. All subjects received medical care from the same physicians who were unaware of

the group assignment. There were no significant differences among the groups in distribution of individual's age, sex, race, educational background, or medical history with respect to hypertension.

Data were collected from subjects at each of four clinic appointments. Each subject was followed for 18 months. Instruments included two tests of knowledge, pretest and posttest; adherence-request for medical follow-up; and blood pressure readings. Patient education was not effective in lowering blood pressure; it produced an untoward outcome, a dropout rate higher than that for patients receiving only routine care. Contingency contracting was found to be an effective intervention strategy for improving patient knowledge, $F(1, 59) = 51.32$, $p < .0001$; adherence to requests for regular medical care, $F(2, 49) = 25.9$, $p < .0001$; and decreasing diastolic blood pressures, $F(2, 49) = 3.39$, $p < .05$ (Swain & Steckel, 1980).

In conclusion, Hershey et al. (1980) identified control over health matters as a factor affecting compliance. Greene et al. (1982) found that patients viewing themselves as more susceptible to illness (powerless) were less likely to follow recommended advice. Each of these findings suggests a connection between a client's sense of power and his compliance behavior.

Powerlessness

In analyzing provider-patient dialogues of 101 new patient visits in a general medical clinic, Carter, Invi, Kukall, and Haigh (1982) identify specific provider and patient behaviors related to outcomes of knowledge, compliance, and satisfaction. A review of interactional behaviors using regression analysis with a significant F-to-enter ($p < 0.05$) and supplementary contextual analyses suggested the importance of several categories of physician and patient behavior. Three interactional analysis systems (Bales', Rotter's Modified Bales', and Stiles' "verbal response modes") were used to characterize the exchanges. The principal task of this project was to generate descriptive hypotheses concerning the effective encounter process. Findings indicated behaviors manifesting tension bear important and complex relationships to encounter outcomes. The timing of other behaviors appears to be critical to subsequent outcomes. Teaching in the concluding segment may be important and the use of power in patient-provider encounters may affect behavior (Carter et al., 1982).

Lambert and Lambert (1981) conducted a study to determine if the manifested sense of powerlessness of a physically ill individual was brought about by poor acquisition of the illness role. Ten patient interview sessions were held at a large teaching hospital to gather

clinical data. The concept of powerlessness emerged as a common issue in a majority of the interviews (Lambert & Lambert, 1981). These patients expressed feelings of powerlessness by such statements as "not having control" over their illness; "not having control" over medical therapies; not being able to "go anywhere" and having to "rely on others for mobility"; "not being treated with dignity," and "never knowing what the nurses have planned for you" (Lambert & Lambert, 1981, p. 12). Patients attempted to deal with their sense of powerlessness by making threats, by bargaining, or by carrying out aggressive acts.

Based on their clinical observations, Lambert and Lambert (1981) formulated the following propositions:

> 1. An individual who perceives a sense of power or control as a positive attribute will attempt to maintain control or power over factors that affect that individual.
>
> 2. An individual who is in an acute state of physical illness is more likely to demonstrate a sense of powerlessness than an individual who is not in an acute state of physical illness.
>
> 3. As an individual's significance in relation to members of the health care team increases, the likelihood of developing a sense of powerlessness will decrease.
>
> 4. A person who understands how the health care system functions is less likely to demonstrate a sense of powerlessness than is an individual who does not understand how the health care system functions.
>
> 5. As an individual's sense of powerlessness increases the individual will be more likely to

> use bargaining behavior or threatening and aggressive acts to gain control of the personal situation.
>
> 6. An individual who values a sense of power will tend to comply less with health care therapies when experiencing a sense of powerlessness than will an individual who does not experience a sense of powerlessness. (p. 13)

Lambert and Lambert (1981) applied role theory to each of the propositions. They concluded that a physically ill individual's inability to progress through stages of role acquisition (of the illness) can lead to a sense of powerlessness or to a feeling of a loss of control over the situation, illness.

Edmunds and Scott (1981) identified nurses as individuals who may experience feelings of powerlessness in their professional roles. As a means of developing strategies to reduce this sense of powerlessness, these researchers developed a tool to rate an individual's power. Included in this power inventory are six parameters of power--resources, sphere of influence, organization, personal, expert, and knowledge. By self-administration of this tool, an individual may analyze power deficiencies and gain greater insight into job and role related frustrations.

Techniques to improve one's position were also given. These include: seeking approval from the more powerful person on some basis other than the one in which the powerlessness is based; increasing the distance from the more powerful person through withdrawal from the relationship,

reduced interaction, or both. Another method involved reducing the power differential through use of certain balancing activities such as excelling in things not including the more powerful individual. Finding an alternate form for satisfaction or obtaining control over some source of satisfaction required or desired by the more powerful member were other methods discussed. A final suggestion was to develop a source of satisfaction on which the more powerful member can be made dependent (Edmunds & Scott, 1981).

Brown (1985) applied the concept of control to the alcoholic. Successful abstinence requiring total loss of control (powerlessness) for the alcoholic has been proposed as the key issue for successful therapy. Needed is a total reversal of the traditional belief that the alcoholic should be able to control his drinking, and that he will be able to do so if he can find the proper answer or the right approach through his therapist. Rather than equate abstinence with an admission of weakness and failure, where control is a virtue and possible for all but the weakest willed, Brown (1985) proposes that "therapists must recognize loss of control for the alcoholic and must accept their own total lack of control in being able to make the patient change" (p. 15). Only after the therapist has recognized his own limits (powerlessness) can he begin to help the alcoholic accept his own powerlessness, the diagnosis of alcoholism, and the required abstinence. Only

after this total relinquishment of control and acceptance of powerlessness can the therapist help the patient learn how to stay abstinent. "Rather than an abnegation of responsibility, the admission of powerlessness is the first step in the assumption of responsibility" (Brown, 1985, p. 16).

Powerlessness as a psychological state was explored as Weng (1977) assessed the relationship of scores on the Seaman-Rotter Powerlessness Scale for 25 suicide attempters, 30 threateners, and 30 control subjects. The 25 subjects in the sample of suicide attempters were chosen from a list of patients admitted to two public hospitals as a result of self-injury during the month of March 1974 in a northern metropolitan area. The 30 suicide threateners were selected from the telephone-caller population to the Crisis Intervention Center. The non-suicidal sample made no threats of suicide or attempts during their lives. In the combined analysis, the attempters produced the highest mean powerlessness score with only a slightly lower score for the threateners ($F = 19.43$, $p < .001$). A tentative suggestion from this study was that high powerlessness is a psychologically distressing state in itself, and that there are limits to the amount of powerlessness subjects can tolerate.

Testing the hypothesis that there would be a significant increase in powerlessness scores over a 10-year period, Wilkins (1975) conducted a 10-year follow-up of a sample drawn from a population of college students originally

tested in 1964. Using Rotter's Internal-External Locus of Control Scale, Wilkins mailed the questionnaire to 205 of the original sample of 400 undergraduates tested by the investigator in 1964 and 1965. Questionnaire replies were returned from 100 participants. A correlation of .311 ($p < .01$) was obtained between the total I-E scores for 1964 and 1974. A nonsignificant t ($t = -1.53$, $df = 99$) was obtained between the total scores for the two years by means of a repeated measure design. Thus, no significant changes in total locus of control had occurred over the 10-year span.

The sociological concept of powerlessness was explored in 1973, as Fischer (1973) tested the hypothesis that the more urban (larger) a person's community of residence the greater his sense of powerlessness. Fischer used previously collected survey data from the 1968 Survey Research Center (SRC) Election Poll, the 1971 wave of the "Income Dynamics" survey and the Almond and Verba's (1963) Five Nation study, of which only the United States and United Kingdom samples were included. An unweighted means analysis of covariance was performed on the reversed SRC personal competence score, indicating essentially no effect of place of residence on sense of power. The analysis was replicated with the Income Dynamics data; the results were, again, essentially negative. There was no association between powerlessness and urbanism. Fundamental personality dimension such as a sense

of control are not affected directly by the gross ecological differences between town and country (Fischer, 1973).

In another sociological application of powerlessness Otto and Featherman (1975) studied self-estrangement and powerlessness (dependent variables). These are affected by different patterns of structural and personality antecedents originating at various stages in the first half of the life cycle. They analyzed, by multiple regression based on correlations corrected for unreliability, data from a cohort of 17-year-old men studied in 1957 and again in 1972. In 1957 all 17-year-old male students enrolled in Lenawee County, Michigan, high schools were administered a questionnaire soliciting socioeconomic background and personal data. In 1972, a concentrated follow-up effort located 354 (82%) of the original respondents of whom 340 (70.69%) consented to be interviewed by telephone on subjects concerning life cycle histories and current socioeconomic attainments. The structural equations model accounts for small to modest proportions of variance in self-estrangement and powerlessness, and slightly reduces the covariation between the two forms of alienation.

In conclusion, though much data exists about compliance and many applications have been made of powerlessness, very little research has been done to connect the two concepts. For this reason a better understanding of the relationship of the two issues is needed.

Chapter V

Research Design and Methodology

Research Approach

This study is descriptive in nature. The descriptive design is used "when the researcher wishes to obtain information in areas in which little previous investigation has occurred and/or to construct a picture or account of events as they exist naturally" (Waltz & Bausell, 1981, p. 6). Both aspects of this definition apply to this study as no attempt was made to alter the situation under investigation, and no new entity was introduced. Health Locus of Control (HLC) scores and compliance scores were measured and correlated.

Variables

The dependent variables are health locus of control as reflected by the score on the HLC Scale and compliance as reflected by the score on the Compliance Scale. Controlled variables are age and mental orientation. The intervening variables may include socioeconomic status, state of physical and mental well-being on the day of testing, and honesty of the subjects.

Setting, Population, and Sample

The setting for this study was in a county in Northeast Mississippi. This county has one major city which is industrial although the county is predominantly a rural area. The county is 415 squares miles with a population of 21,082. Of the total population, 49.9% are black, 66% are age 18 or older, and 18.7% live below the poverty level (Mississippi Resource Information Center, 1985).

Data were collected from clients of a physician's practice in the major city. The physician has a general medical practice including obstetrics with a specialty of surgery. Care is provided for patients without consideration as to insurance or ability to pay. Clients in the practice come from both the city and the county. The majority of the clients are over the age of 18. Clients include both male and female and are of the black or white race. The population for the study was all patients over the age of 18 who use this physician for care. The research sample consisted of all subjects who met the criteria, who were present on the day of data collection, and who agreed to participate in the study. The target sample size was to be 30. The actual sample size was 23.

Data Gathering Process

Initially the researcher contacted the physician to explain the study, to obtain permission to use the facility

(Appendix A), and to determine days of data collection. At the time of data collection, the researcher approached each client in the waiting room, explained the purpose of the study, and obtained written consent from each participant (Appendix B). To determine mental orientation, each client was called by name and was asked to indicate the date and time on the Compliance Scale. Any client who did not respond to his own name, or who did not correctly identify the date or time was considered not to be mentally oriented and was not used as a participant in the study.

Each subject received verbal instructions for completing the questionnaires. Subjects who requested assistance had the questionnaires read to them. The Health Locus of Control Scale and Compliance Scale were administered to the subjects on an individual basis, in the waiting room, allowing 15-20 minutes for completion. Data collection took place in June 1986.

Instrumentation

The HLC Scale is a self-administered instrument composed of 11 statements that are designed to elicit information about how much control an individual feels he/she has over his/her state of health (Appendix C). A 6-point Likert-type scale is used for responses with a numerical code of 1 to 6 assigned to the 6 response categories. The responses to questions 1, 2, 8, 10, and 11 must be reversed before being added to the responses of the remaining

questions. The total score for the instrument may range from 11 to 66. A high score denotes belief in a high degree of external locus of control (powerlessness) and a low score denotes belief in a high degree of internal locus of control (power).

The test-retest characteristics of the variable (HLC) measured by the instrument was 0.71. With the internal consistency (reliability) characteristics, the coefficients alpha for the samples varied from 0.40 to 0.72 (Wallston, Wallston, Kaplan, & Maides, 1976). No figures are available for validity; however, it is assumed to have face validity within the confines of this study.

The Compliance Scale was developed by the researcher following the review of the literature and input from experts. Questions 1-7 are demographic in nature and include age, sex, race, marital status, income, education, and present or past health problems. There are seven pairs of questions concerning compliance in areas of regular visits to the health care provider, use of medication, loss of weight, special diet, smoking or chewing tobacco, exercise, reduction of stress, or pressure in life. The first question in each pair asks if the client has ever been told by the health care provider to do a specific action. The second question asks if the client did the behavior requested by the health care provider. No points were given for the answers indicating noncompliance. One point was

given for the answers representing partial compliance, and 2 points were given for the answer representing compliance. The compliance index was determined by four steps:

1. The total number of opportunities for compliance were counted.

2. This number (0-7) was multiplied by 2 to establish the maximum score possible for compliance (0-14).

3. The actual compliance score was determined by adding the scores for individual areas of compliance (0-14).

4. Then the compliance score was divided by the maximum score possible for compliance to get a compliance index (0-1).

The Compliance Scale was pretested for clarity by administering it to five individuals who did not have a chance to participate in the study. The compliance scale is assumed to have face validity within the confines of the study.

Analysis

The statistical analysis used on the collected data was the Pearson *r*. This statistical test is the most commonly used correlation index to test that a relationship exists between two interval or ratio variables (Polit & Hungler, 1983).

Assumptions

1. Compliance to therapeutic regimes can be measured.

2. A client's sense of power can be measured.

3. All subjects answered honestly, according to their actual beliefs.

4. Optimum health is highly valued by the client.

5. Knowledge of a client's health locus of control is valuable to the Family Nurse Clinician (FNC).

6. The Health Locus of Control Scale and the Compliance Scale are valid within the confines of this study.

Limitations

1. Data cannot be generalized to the client less than 18 years of age.

2. Data cannot be generalized to urban populations.

3. Data cannot be generalized to other geographic areas of the country.

Chapter VI

Analysis of Data

The purpose of this research was to correlate a client's sense of power with his compliance to a health care regime. To accomplish this purpose, the Health Locus of Control (HLC) Scale and the Compliance Scale were administered to 30 subjects. Because two subjects were unable to complete the date and time as requested on the Compliance Scale, they were considered not to be oriented and their questionnaires were disregarded. One client did not complete the HLC Scale and four clients had no opportunity for any compliance behaviors, and therefore had no compliance score; these questionnaires were disregarded as well when tabulating the results. As a result, 23 individuals remained in the sample.

Age ranged from 18 to 72 years with a mean of 43.44 years. Nine (39.1%) males and 14 (60.9%) females were included. Of the sample, 12 (52.2%) were of the black race and 11 (47.8%) were Caucasian. Income levels included 9 (39.1%) less than $10,000, 7 (30.4%) $10,000-$20,000, 2 (8.7%) $20,000-$30,000, 2 (8.7%) $30,000-$40,000, and 3 (13%) over $40,000. The mean income was $20,000. Education levels varied from 0 years to 16 years with a mean of 11.0

years. Current health problems were identified by 11 individuals (47.8%) while 12 subjects (52.2%) indicated past health care problems.

The range of scores on the HLC Scale was 23 to 51 with a mean of 37.74. The compliance indices varied from .50 to 1.0 with a mean of .79. These data can be found in Table 1.

Hypothesis

The researcher hypothesized that when clients were surveyed and their HLC score and their compliance index were correlated there would be no significant difference. To test this hypothesis the researcher submitted data to the Pearson *r* at .05 level of significance. The obtained *r* value was .2574 which was not significant at the .05 level leading the researcher to fail to reject the null hypothesis. These data can be found in Table 2.

Additional Findings

In order to examine the data more fully the researcher analyzed the demographic data and the HLC and compliance scores using the Pearson *r*. Significant findings were:

1. Age correlated with compliance with a *r* value of .4131 ($p = .026$) indicating as one got older, that compliance increased.

2. Age correlated with HLC score with a *r* value of .4131 ($p = .005$) indicating as one increased in age, the HLC score increased (increased powerlessness).

Table 1

Raw Data

Client	Age	Sex	Race	Income	Education	Health Problem	HLC[a]	Compliance Index
1	33	F	B	< 10	10	No	31	.75
2	46	F	W	> 40	15	Yes	31	.50
3	68	M	W	10-20	14	Yes	42	.88
4	31	F	B	< 10	10	No	41	.50
5	24	F	B	10-20	15	No	34	1.00
6	21	F	B	< 10	12	No	23	.75
7	25	M	W	10-20	16	Yes	36	.75
8	67	F	B	< 10	7	Yes	51	1.00
9	71	M	W	< 10	6	Yes	37	.90
10	40	F	B	< 10	12	Yes	40	.67
11	42	M	B	10-20	12	No	46	.88
12	65	M	B	20-30	0	No	39	1.00
13	38	F	W	30-40	12	Yes	35	.83
14	30	F	B	10-20	9	Yes	37	.50
15	72	F	W	< 10	8	Yes	43	1.00
16	25	F	B	> 40	9	No	27	.75
17	34	F	B	< 10	12	Yes	44	.63
18	57	M	W	30-40	12	Yes	45	.83
19	48	M	W	20-30	12	No	38	.50
20	29	F	W	< 10	12	No	34	.63
21	48	F	W	10-20	12	No	41	1.00
22	67	M	W	10-20	16	Yes	36	1.00
23	18	M	B	> 40	10	No	37	1.00

[a]HLC = Health Locus of Control.

Table 2

Correlation of HLC Scores with Compliance Index Using Pearson r

Measure	N	r
HLC scores	23	.2574

$p \leq .05$.

3. There was a trend for better compliance among males with a r value of -.2957 ($p = .088$).

4. Reporting of health problems was associated with higher locus of control scores (increased powerlessness) with $r = .3402$ ($p = .058$). These results can be found in Table 3.

In addition, the researcher would like to point out some problems with data collection. Some confusion was revealed when tabulating the compliance index--some subjects responded that they had never been told to do an activity by a health care provider, then proceeded to respond to reasons why they did not do as they had been instructed. The researcher also had to read the tools to four of the elderly subjects who were unable or had difficulty reading. This required additional time for administration of the tool.

Table 3

Correlation of Selected Demographic Variables with Compliance and HLC

Measure	r
Age with compliance	.4131*
Age with HLC	.5307*
Sex with compliance	-.2957
Presence of health problems with HLC	.3402

*$p \leq .05$.

Chapter VII

Summary, Conclusions, Implications, and Recommendations

Summary

The purpose of this research study was to correlate a client's sense of powerlessness with his compliance to a health care regime. From a population of patients of a family physician in a rural county in Northeast Mississippi, a sample of 30 individuals were given the Health Locus of Control tool and the Compliance tool. Of these 30, 23 met the qualifications and were included in the study.

The hypothesis for this study was that there would be no significant correlation between clients' sense of powerlessness and their compliance to the health care regime. The statistical analysis failed to reject the hypothesis.

Conclusions and Implications

The findings of this study would seem to indicate that no relationship exists between a client's sense of power and his compliance to the health care regime. As the sample size was small, care must be taken in the interpretation of the results which are not supported by the literature. Connelly (1978) identified the significance of the

practitioner-patient relationship and Carter, Invi, Kukall, and Haigh (1982) found the power in the patient-provider encounter may affect compliance behavior.

Greene, Weinberger, Jerin, and Mamlin (1982) suggested that patients who viewed themselves as having increased susceptibility (powerlessness) were less likely to follow advice. In contrast to this, Brown (1985) believed it was critical that patients accept their own powerlessness as a means of promoting their compliance to abstinence. Dracup and Meleis (1982) believed compliance was enhanced when the sick or at-risk role (powerlessness) was incorporated into the self-concept of the client.

These researchers refer to power as a significant factor in compliance behavior but have not reached the same conclusions. This indicates the need for further research to provide a basis for nursing action--should patient power be enhanced by nursing action or should the power of the health care provider be enhanced.

Lambert and Lambert (1981) believed a client who values power would comply less with health care regime when feeling powerless. The extra factor in their proposal is the value the client places on power, a factor not included in this research. Further research should include an appraisal of the value the client places on power as the initial step in the research process.

The correlations revealed by this study had not been discussed in the literature reviewed by this researcher and should be explored. These include the correlation between increased age and increased compliance, and the correlation between presence of health problems and increased compliance. Perhaps this is due to the fact that the elderly have a greater incidence of health problems, a relationship that should be investigated as it relates to health care behaviors. The trend revealing males as being more compliant suggests that females, especially young females, may be a group at especially high risk for non-compliance. The correlation of increased age to increased sense of powerlessness needs further research as the literature established powerlessness as a significant concept, and it may be especially meaningful in working with the elderly.

Due to the problems encountered with the compliance scale, revision of the compliance tool is indicated. Additional documentation from the client's records would substantiate the self-reporting clients gave on the compliance tool. This was not available in the setting used for the study as the information was frequently not included in the clients' records.

A longitudinal study in which the researcher could follow a sample of clients over a period of time would provide additional information both about the clients' sense

of power and their compliance to the health regime through active observation. In practice the Family Nurse Clinician (FNC) could perform this type of research.

Recommendations

Research

1. Conduction of a similar study with a larger sample.

2. Conduction of research in which a measurement of the client's value of power is included in the correlation between power and compliance.

3. Inclusion of additional documentation of opportunities for compliance (what the health care provider has requested patient behavior consist of) as well as the self-report method.

4. Revision of the compliance scale in order to clarify to which items the client is to respond when no opportunity for compliance exists.

5. Conduction of a longitudinal study to provide additional data through direct observation by the FNC in practice.

Nursing

1. Maintenance of an awareness of the possibility that the young female is at especially high risk for noncompliance.

2. Consideration of the additional time required to administer the tools to the elderly due to inability or difficulty in reading. Increased time per elderly client

may be necessary to evaluate ability to read written material (instructions, schedules) in order to promote compliance.

Appendix A

Physician Memorandum of Agreement

Concerning Nursing Study

Title of Study:

A Correlation of the Client's Sense of Power in Health Care and His Compliance to the Therapeutic Regime

Susan S. King has explained to me her proposed research study.

I give permission for those clients who wish to do so to participate.

_____ _____

Date Physician's Signature

_____

Investigator's Signature

Appendix B

Consent Form for Participants

I willingly agree to participate in the study of Susan S. King, a M.U.W. graduate student.

I understand the study includes two sets of questions. One set of questions deals with my feelings about health. The other set of questions concerns what actions I take about my health.

Mrs. King has answered my questions to my satisfaction. I understand I can refuse to participate in the study.

I understand that my name will not be used in any manner with students, faculty, or others. My participation in this study is anonymous and will not affect the care I receive in this office. I can withdraw from the study at any time. I understand that my participation in this study may serve to increase the quality of health care given to all clients.

Date	Subject's Signature
Date	Investigator's Signature

Appendix C

Health Locus of Control Scale (HLC)

		Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1.	If I take care of myself, I avoid illness.	1	2	3	4	5	6
2.	Whenever I get sick it is because of something I've done or not done.	1	2	3	4	5	6
3.	Good health is largely a matter of good fortune.	1	2	3	4	5	6
4.	No matter what I do, if I am going to get sick I will get sick.	1	2	3	4	5	6
5.	Most people do not realize the extent to which their illnesses are controlled by accidental happenings.	1	2	3	4	5	6
6.	I can only do what my doctor tells me to do.	1	2	3	4	5	6
7.	There are so many strange diseases around, that you can never know how or when you might pick one up.	1	2	3	4	5	6
8.	When I feel ill, I know it is because I have not been getting the proper exercise or eating right.	1	2	3	4	5	6
9.	People who never get sick are just plain lucky.	1	2	3	4	5	6
10.	People's ill health results from their own carelessness.	1	2	3	4	5	6
11.	I am directly responsible for my health.	1	2	3	4	5	6

Appendix D

Compliance Scale

1. Age: _____

2. Sex: _____

3. Race: _____

4. Marital Status: _____

5. Income:
   Less than $10,000 _____
   $10,000 - $20,000 _____
   $20,000 - $30,000 _____
   $30,000 - $40,000 _____
   More than $40,000 _____

6. Education: Last grade completed _____

7. Do you have any past or present health problem(s)? ___
   If yes, what? _____ When? _____
   Doctor: _____

8. Has your doctor recommended regular visits? Yes__ No__
   If so, how often? _____

9. Do you keep these visits as requested? Yes ___ No____

10. If no, why not?
    _____ I don't have transportation.
    _____ I don't have money.
    _____ I don't see the need.
    _____ I was too sick to make trip.
    _____ I see the doctor more often than he has asked.

11. Are you currently or have you recently been placed on medicine for your problem? Yes ___ No ___

12. How often do or did you take your medicine?
    _____ Always
    _____ Sometimes
    _____ Occasionally
    _____ Never

13. When you miss your medicine, what is the usual reason?
_____ I don't miss any of my medicine.
_____ I forget.
_____ I run out of medicine.
_____ It costs too much.
_____ It is too far to go to get the prescription filled.
_____ I feel that I don't need them.
_____ They make me feel sick or faint.
_____ The medicine ruins sex.
_____ Other.

14. Have you ever been told to lose weight? Yes __ No ___

15. If you were told to lose weight, what did you do?
_____ I lost weight and kept it off.
_____ I lost weight and gained it back.
_____ I didn't lose any weight.

16. Are you on a special diet? Yes ___ No ___
If yes, what type? _____

17. How often do you follow your diet?
_____ Always
_____ Sometimes
_____ Occasionally
_____ Never

18. When you don't follow your diet, what is the usual reason?
_____ I always follow my diet.
_____ The diet is too hard to understand.
_____ I can't afford the right foods.
_____ I don't care or feel it's important.
_____ I don't like the diet.
_____ I crave things that are not allowed on the diet.
_____ Other reasons.

19. Do you smoke or chew tobacco? Yes ___ No ___. Have you ever been told to stop smoking or chewing by a health care provider? Yes ___ No ___.

20. If you were told to stop smoking or chewing tobacco what did you do?
_____ I quit smoking and/or chewing.
_____ I quit and started smoking and/or chewing again.
_____ I cut down.
_____ I didn't quit.

21. If you smoke or chew, have you:
_____ tried to quit but have been unable?
_____ decided you enjoy smoking and/or chewing and don't want to stop?
_____ ever been told to stop?

22. Have you ever been told to exercise regularly, i.e., walk? Yes ___ No ___.

23. If you were told to exercise regularly, what did you do?
_____ I exercise regularly.
_____ I started but stopped exercising.
_____ I never started.

24. If you do not exercise regularly, what is the usual reason?
_____ I don't enjoy it.
_____ I was never told to exercise.
_____ It is too hard.
_____ I don't have time.
_____ I am too tired.

25. Have you ever been told to reduce stress or pressure in your life? Yes ___ No ___.

26. If you were told to reduce stress, what did you do?
_____ I cut down stress.
_____ I did not cut down stress.

27. If you did not try to decrease stress, what was the reason?
_____ It was not important.
_____ My job will not permit it.
_____ It was too hard.
_____ I was too tired.

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